



Promoting and Protecting Subjective Well-Being Using Self-Affirmation

Short Title: Enhancing One's Sense of Self Using Self-Affirmtion

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All decisions made, regarding the study, will be made by the chief and principal investigators, The University of Manchester will not be contributing to the decisions made during the study. This study protocol has been written by the principal investigator and reviewed by the chief investigator.

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Study Summary

Title: Promoting and Protecting Subjective Well-Being Using Self-Affirmation.

Short Title: Enhancing One's Sense of Self.

Study Design: Prospective randomised controlled trial. Between-participants factor:

condition with 3 levels (self-affirmation vs self-affirmation 'booster' vs control). Within-

participants factor: time with 3 levels (baseline assessment vs 'booster' assessment vs follow-

up assessment). Outcome variable: subjective well-being. Self-esteem and state anxiety

assessed as mediators.

Study Participants: Recruited via opportunity sampling from those attending courses in the

Health and Wellbeing College, which runs free courses designed to help improve people's

health and/or well-being. Participants will vary in age, gender, ethnicity and class but will all

be aged 18 and above. Participants will be equally randomly assigned to each condition.

Target Sample Size: 100 participants initially, to allow for attrition, and 81 participants on

completion of the study, based on a power analysis to achieve a statistical power of .80.

Time Interval Between Assessments: 1-week

Planned Study Period: February 2018 - July 2018.

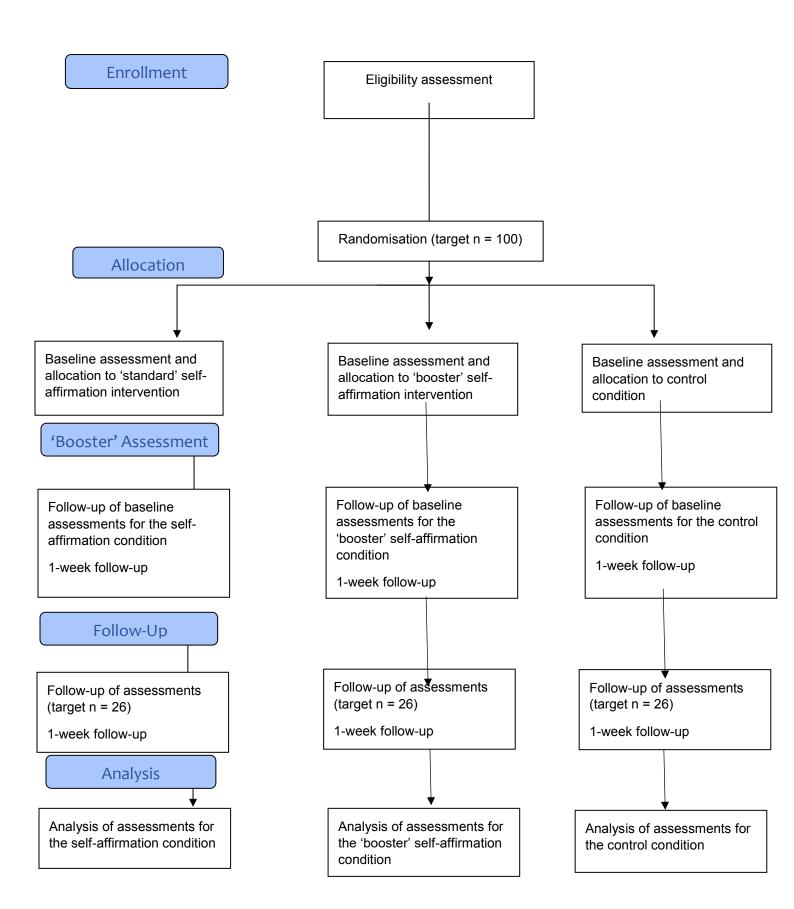
Research Aims: To see whether a brief self-affirmation intervention can improve subjective

well-being. To see whether this effect will be greater in those that receive the intervention

twice compared to those that only receive the intervention once. To see whether this effect of

self-affirmation is mediated by psychological variables, namely self-esteem and state anxiety.

Study Flow Diagram



Promoting and Protecting Subjective Well-Being Using Self-Affirmation

Background

Subjective well-being refers to an appraisal of one's own life as a whole (Diener et al., 1999) and is being used by governments as a measure of social progress (Stiglitz et al., 2009). A key aim of government policies is therefore to find ways to improve people's subjective well-being, as a way of improving quality of life (Stiglitz et al., 2009). This suggests the importance of developing an effective intervention that can improve subjective well-being, as this could then be used in practice to promote and maintain positive mental health and quality of life at a large scale. There are currently a number of ways in which the government is attempting to address this, with programs in place that are designed to improve people's wellbeing, such as Altogether Better (Yorkshire and Humber Strategic Health Authority) and Target Well-being (Federation of Groundwork Trust), as well as NHS programmes and free well-being courses (CLES Consulting and New Economics Foundation, 2013). However, these programmes were not always found to be effective in improving people's well-being, particularly when the programmes involved health awareness activities (CLES Consulting and New Economics Foundation, 2013). This limited effectiveness of programmes involving health awareness activities makes them unlikely to be cost-effective as a well-being intervention. This suggests the importance of developing an effective intervention to improve people's well-being, which could also be used within government/NHS well-being programs, to enhance the effectiveness of said programs in improving well-being to make them more cost-effective, particularly in those promoting health awareness.

Self-affirmation theory (Steele, 1988) provides an approach to improve subjective wellbeing by overcoming feelings of threat to the self. A threat to one's sense of self could undermine one's subjective well-being. Self-affirmation theory (Steele, 1988) states that people strive to maintain a positive, moral and adaptive self-image, and that threats to the self (e.g., a smoker being told that smoking is bad for them), motivates them to defend their global sense of self (e.g., by convincing themselves that the information is flawed). According to self-affirmation theory (Steele, 1988), people's sense of self can also be protected by bolstering self-image in a domain that is not under direct threat. For example, if one feels that their sense of self is threatened in a certain domain (e.g., by anti-smoking messages), then one can bolster self-image by compensating in another domain (e.g., by doing charity work). There is a large amount of evidence to support this theory, mostly from studies in which self-affirmation manipulations (i.e. by reminding people of their 'core values') have been found to be effective in overcoming threats to the self and promoting receptiveness to health-risk communications (McOueen & Klein, 2006). However, the effectiveness of self-affirmation in overcoming threats to the self is not specific to health-risk communications as research has found self-affirmation also to be effective in overcoming threats to the self that occur within other domains, such as self-esteem, anxiety and wellbeing (e.g., Morgan & Harris, 2015).

Accordingly, Armitage (2016) found self-affirmation manipulations improved and protected subjective well-being. This shows the effectiveness of self-affirmation in enhancing subjective well-being, suggesting that they could be employed to protect subjective well-being across populations at a low cost. Something to acknowledge however, is that the sample only consisted of older women, and so the results may not be generalisable to the wider population. It would also be beneficial if research were to be conducted to determine the effects of self-affirmation in a sample of people who are already undergoing a well-being

intervention (e.g., a government programme or NHS course), to see whether self-affirmation can enhance the effectiveness of the intervention in improving well-being, as this has not yet been explored and could help to make the intervention more cost-effective. Also, no research to date has measured whether more self-affirmation interventions would produce greater effects. This is of importance as research has regularly demonstrated evidence of dose dependant relationships between a psychological intervention and its subsequent effects, with a greater number of psychological interventions being associated with greater effects (Sin & Lyubomirsky, 2009).

In addition to this, there has been research that has looked at examining mediators of the self-affirmation process, however the mechanisms for explaining the effects of self-affirmation are not yet clearly understood (McQueen & Klein, 2006). A recent study by Armitage (2012) has found that self-esteem acted as a mediator in the self-affirmation process, as did shifts in the self-esteem domain. However, more research needs to be conducted to confirm findings of self-esteem acting as a mediator in the self-affirmation process as findings on this have been inconsistent (McQueen & Klein, 2006), with some research showing no evidence of self-esteem acting as a mediator (e.g. Armitage & Rowe, 2011).

Furthermore, a study by Morgan and Harris (2015) found that self-affirmation led to reductions in state anxiety. This suggests state anxiety may be acting as a mediator in the self-affirmation process, as undergoing self-affirmation resulted in changes in state anxiety, with the self-affirming effects possibly being occurring due to reductions in state anxiety. Therefore, it could be that in Armitage's (2016) study, state anxiety may have mediated the effect of self-affirmation on subjective well-being, with any changes in subjective well-being being explained by reductions in state anxiety. As Armitage (2016), and other researchers, have not addressed this possibility of state anxiety acting as a mediator in the self-affirmation Version 1.0- 23/04/2018

process, research should be conducted on this as this as this would allow greater understanding of the mechanisms involved.

Accordingly, the present study will test the ability of self-affirmation manipulations to promote and/or protect subjective well-being by comparing differences in subjective well-being in those that undergo self-affirmation manipulations with those that do not. The study will also compare the difference between the effects of one self-affirmation intervention with that of two self-affirmation interventions ('booster' condition). The current study will also measure the effects of the self-affirmation manipulation on self-esteem and state anxiety to test the possibility of potential mediators in the process. Participants will be recruited from a college which runs free courses that are designed to help people improve their health and/or well-being. It is likely that those who attend this college may feel threatened by talking through issues during the course, which would lead to defensive processing and therefore undermine the effectiveness of the course. For example, in a study by Armitage (2012), body shape and weight was perceived as threatening among young women. Self-affirmation may help to overcome these feelings of threat by reducing defensive processing, which may then enhance the effectiveness of the course in helping people improve their well-being.

Rationale and Aims-

Moreover, the present study aims to confirm previous findings that brief self-affirmation measures can enhance and protect subjective well-being (Armitage, 2016). As the sample in the present study aims to consist of a wide-range of backgrounds, this should allow for a more representative sample. The present study also aims to examine the possibility of mediators involved in producing these effects of self-affirmation, namely state anxiety and self-esteem, to increase understanding of the mechanisms involved in the self-affirmation

process. The present study also aims to measure whether this effect of self-affirmation on subjective well-being is greater in those that undergo a greater number of self-affirmation interventions, as to whether or not there is a dose-dependent relationship between self-affirmation and its' effect on enhancing subjective well-being. This could then be used in practice to further enhance the positive effects of self-affirmation.

Hypothesis-

It is hypothesised that there will be higher levels of subjective well-being, after controlling for baseline scores, in those that receive a self-affirmation manipulation compared to those that do not. Also, this effect will be greater, with more improved levels of subjective well-being, in those that receive the self-affirmation intervention twice compared to those that only receive it once. This is hypothesised due to findings from research in other domains of more psychological interventions producing greater effects; known as a dose-dependent relationship. It is also hypothesised self-esteem and state anxiety will act as mediators in the self-affirmation process.

<u>Methods</u>

Participants-

Based on the medium effect size of f = 0.25 for a between-participants MANOVA of three levels and three dependent variables (Faul, et al., 2013), G-power software (Faul, et al., 2007) was used to conduct a power analysis to calculate the required sample size. A medium effect size was used for this analysis as there has been little previous research on self-affirmation in which there were three levels of the between participants factor and three

dependant variables. Therefore, a medium effect size for this design was used, instead of using effect sizes from previous research on self-affirmation. As the analysis required an F-test with a between-factors MANOVA with three levels, also assuming an error probability of 0.05 and a statistical power of 0.80, as advised by Cohen (1992), it presented a required sample size estimated to be N = 81.

Accordingly, this study will aim to recruit a total of 100 participants to allow for attrition. This was calculated based on findings of a median retention rate (participants that had completed baseline and follow-up) of 89% from 151 longitudinal randomised control trials (RCT; Walters, et al., 2017). However, these RCT's were clinical trials in which participants were often offered incentives for participating, with follow-up regularly being retrieved from medical files, as 84% of all trials were conducted in a hospital or general practice (GP) setting. Therefore, as the participants in the present study will not be offered any incentives for participation and the study is not a clinical trial, there are likely to be higher attrition rates when compared to those found by Walters, et al. (2017). To account for this likelihood of higher attrition rates, the initial participant recruitment aim will be rounded up to 100 participants.

Participants will be recruited via opportunity sampling from the Health and Wellbeing College, in the North-West area of England, from a variety of courses lasting from 2-8 weeks. These courses aim to enhance people's subjective well-being, as well as other types of well-being and physical health. Examples of the courses run by the Health and Wellbeing College that I will be recruiting from include courses on improving sense of control, healthy relationships and anger management.

This study will aim to recruit participants from a variety of backgrounds with a mixture of different ages, genders, education levels and ethnicities to develop a representative sample

and enhance generalisability. Participants will all be aged 18 and above. Participants will not be offered any incentives for participating in the study. The only exclusion criteria will be any cognitive/psychological deficits that would affect the individual's capacity to consent.

Design-

The study will be a prospective randomised controlled trial with the design being mixed, consisting of between-participants and within-participants factors. The between-participants factor is condition which will consist of three levels; a 'standard' self-affirmation condition, a 'booster' self-affirmation condition (whereby participants receive the self-affirmation manipulation twice) or a control condition. Participants will be randomly assigned to a condition using a web-based randomiser. The within-participants factor consists of three levels; baseline assessment, 'booster' assessment and follow-up assessment, with a 1-week time interval between them. The main outcome measure will be subjective well-being. Self-esteem and state anxiety will be measured as to whether they act as mediators in the process.

Materials-

Measures

The questionnaire will first consist of questions assessing the participants' demographic variables, such as age, gender and ethnicity. The questionnaire will then consist of measures that assess subjective well-being, self-esteem and state anxiety. To measure subjective well-being a questionnaire will be presented to the participants identical to that used by Armitage (2016). This questionnaire will assess three main components of subjective well-being using the four items advised by the UK Office for National Statistics (Dolan et al., 2011). These

subjective well-being components include evaluation ("Overall, how satisfied are you with your life nowadays?"), experience ("Overall, how happy did you feel yesterday?" and "Overall, how anxious did you feel yesterday?") and eudemonic ("Overall, to what extend do you feel the things you do in your life are worthwhile?"). Participants will be asked to respond to questionnaire items on 11-point Likert-type scales from 'not at all' (0) to 'completely' (10). In Armitage's (2016) these questionnaire items were found to have good internal reliability (Cronbach's alpha baseline = .70; follow-up = .81) and good test-retest reliability (r = .84, p < .01).

Robins et al's (2001) scale will be used to measure self-esteem. This scale only consists of one item, namely "I have high self-esteem", which is measured on a 5-point Likert-type scale ranging from 'not very true of me' (1) to 'very true of me' (5). Four studies reported by Robins, et al (2001) using this single-item self-esteem scale demonstrated test-retest reliability over 4 years (mean r = .61), construct validity and predictive validity in relation to psychological and physical well-being.

Another self-esteem measure that will be used in the study is Geller et al.'s (1997) shape and weight-based self-esteem scale. Participants will be presented with a list of 8 items, from 7 domains, of which they may derive their self-esteem from. They will be asked to identify which domains are important to them and then rank these in terms of their personal importance. The domains include: personality, face, friendships, body shape/weight, intimate relationships, competence at school and competence in other activities. Participants will then be presented with a circle in which they will be asked to divide this circle into segments based on the rank order of the domains that they identified as being important. The proportion of self-esteem derived from each domain can be calculated from the angle of each segment.

Marteau and Bekker's (1992) short version of the state scale of the Spielberger State-Trait Anxiety Inventory (1979) will be used to measure state anxiety. It consists of six items on 4-point Likert-type scales ranging from 'not at all' (1) to 'very much' (4). The six items used in the inventory are "I feel calm", "I am tense", "I feel upset", "I am relaxed", "I feel content" and "I am worried". Marteau & Bekker (1992) found that this six-item inventory had good internal reliability (Cronbach's alpha = .82) and high concurrent validity as there were no significant differences found between state anxiety scores when the full twenty-item inventory was used compared to when the six-item inventory was used.

Manipulation

Self-affirming implementation intentions (Armitage et al., 2011) will be used for the self-affirmation manipulation. These will be identical to the ones used by Armitage et al., (2011) and Armitage et al., (2014) that were found to be effective in reducing defensiveness and improving health behaviour. Implementation intentions encourage people to link critical situations with appropriate behavioural responses (Gollwitzer, 1993). This will involve an ifthen statement in which participants will have to link the 'if' statement with one of four possible 'then' statements. Participants will first be presented with the stem, for example, "If I feel threatened or anxious, then I will..." (Harris et al., 2011). They will then be presented with four self-affirming responses to choose from, for example, "...remember things that I have succeeded in" (Harris et al., 2011). Participants will be encouraged to write out the stem and their response to the stem from the four options, as a way of enhancing self-affirmation.

Participants in the control condition will also complete a questionnaire, as in the self-affirmation condition, however it will be designed to ensure that it will not provide an

opportunity for participants to self-affirm. Minus the self-affirmation manipulation, the control questionnaire will be identical to that in the self-affirmation condition.

Procedure-

Potential participants will be recruited from the Health and Wellbeing College. The study will be advertised to students that attend this college by their course tutors in their usual course classroom. Participants will be asked whether they would like to take part in a study that will assess "personal and social beliefs", which will involve filling out three questionnaires separated by a 1-week time interval. For those that agree to participate in the study, a questionnaire will be given to them to complete titled "Personal and Social Beliefs Questionnaire". The first page of this questionnaire will provide participants with instructions for completing the questionnaire, as well as information on ethics and participant consent. Following this, there will be a series of questions that assess the participants' demographic variables (age, gender), subjective well-being, self-esteem and state anxiety. The questionnaires will be randomised using blocked randomisation beforehand, via a web-based randomiser, and equally spread across the three conditions. The participants will then either receive a questionnaire with the self-affirmation manipulation included, or without this self-affirmation manipulation, based on the group they are randomly assigned to.

Participants that are randomly allocated to the 'standard' self-affirmation condition will have a self-affirmation manipulation included on the last page of the baseline questionnaire, but not on the 'booster' or follow-up questionnaires. Participants allocated to the 'booster' self-affirmation condition will have a self-affirmation manipulation included on the last page of both baseline and 'booster' questionnaires but not in the follow-up questionnaire.

Participants allocated to the control condition will not have a self-affirmation manipulation

included on any of the questionnaires and will instead complete the questionnaires without this. Other than the inclusion of the self-affirmation manipulation, the questionnaires given to those in both the control and self-affirmation conditions will be identical. The questionnaire administrator and participants will be blind to the condition as the participants will return their questionnaires in sealed envelopes.

Study Setting

The study will take place in the Health and Wellbeing College, in both Tameside and Bury campuses in Greater Manchester. Participants will be asked whether they would like to participate in the study in their natural classroom environment by the principal investigator. This will ensure that participants will feel relaxed and comfortable throughout the study as they will be remaining in their natural setting. Participants will be asked to complete the questionnaires, which should take no longer than 5 minutes to fill out. The questionnaires will be provided to the participants, and collected from, by the principal investigator. The course tutors will remain present whilst the study is being carried out. The questionnaires will be filled out under exam conditions in order to ensure the quality of the data. Those who do not wish to participate in the study will instead be provided with course-related reading by the course tutor.

Statistical Analysis Plan

To measure the effectiveness of the randomisation procedure a MANOVA, using SPSS, will be conducted. The independent variable will be condition with 3 levels: 'standard' self-affirmation, 'booster' self-affirmation and a control. The dependant variables will be age, gender and baseline measures of subjective well-being, self-esteem and state anxiety. If the Version 1.0- 23/04/2018

multivariate and univariate tests are non-significant then this will demonstrate that the participants were successfully randomised to the conditions.

To measure the effects of self-affirmation on subjective well-being a mixed 3 x 3 ANOVA, using SPSS, will be conducted. The between-participants factor will be condition with 3 levels ('standard' self-affirmation vs 'booster' self-affirmation vs control), and the within participants factor will be time with 3 levels (baseline assessment vs 'booster' assessment vs follow-up assessment). The dependent variable will be subjective well-being. An ANCOVA will be conducted to explore any significant interactions. For the ANCOVA, the between-participants factor will be condition, the dependent variable will be follow-up scores and the covariate will be baseline scores. Mediator analysis will also be conducted to examine whether self-esteem and state anxiety act as mediators in the self-affirmation process. This will be done using R software via the 'mediation' package.

Ethical Considerations

Ethical approval will be requested via HRA and REC ethics. Participants will be informed that by completing and handing in the questionnaire they are consenting to participate in the study. Participants will be informed that they do not have to participate in the study if they do not want to and they can choose to withdraw from the study, and withdraw their data, at any time. Participants will also be informed that their data will remain anonymous and confidential as participants' names, and any other identifiable information, will not be required.

Due to the follow-up nature of the study, the participants' baseline and follow-up questionnaires will need to be matched. In order to match the participants' two questionnaires, whilst keeping their data anonymous and confidential, they will be asked to

create an identifiable code and state this on both questionnaires. Data storage will comply with the requirements of the Data Collection Act 1998. All manual data (i.e. participant questionnaires) will be immediately transferred onto a protected university computer, by copying the data onto an Excel spreadsheet once the data has been collected. The manual data will be shredded immediately after it has been transferred onto the protected university computer. All data will be stored on the protected university computer under password protected folders and removed once the 5-year data storage period ends, via deleting the files and removing them from the recycling bin, only the chief and principal investigators will have access to the protected university computer. Study data and material may be looked at by individuals from the University of Manchester, from regulatory authorities or from the NHS Trust, for monitoring and auditing purposes.

Although participants will originally be informed that the questionnaires are assessing personal and social beliefs, participants will be verbally debriefed on the true nature of the study by the principal investigator, after the follow-up questionnaires have been completed. Not informing participants of the true nature of the study, that it will involve using self-affirmation, is necessary as research has found that awareness of the self-affirmation process may diminish its impact (Sherman et al., 2009). Participants' demographic variables will also be assessed (e.g., age, gender, income), which some may find intrusive. However, participants will be advised that they do not have to provide this information if they do not wish to and instead they can leave this blank. Appropriate contact details from The University of Manchester will be provided to participants to allow them to contact someone if they have any issues surrounding the research, during or after the study.

Dissemination Policy

The data from the study will be owned by the principal investigator and supervisor and a final study report will be written up following completion of the study, authorship of the final study report will be granted to the principal investigator and supervisor. The study will aim to publish to an academic journal, provided this is advised and aided by the study supervisor and The University of Manchester. The results from the study will also be disseminated to the Health and Wellbeing College, which can then feedback to the members of the college and participants of the study. The full study report will also be available to participants upon request.

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Appendices

Appendix 1: Baseline questionnaire provided to participants assessing demographic variables, subjective well-being, self-esteem and state anxiety with the self-affirmation manipulation included for those in the self-affirmation conditions (meeting point 1).

Appendix 2: Baseline questionnaire provided to participants assessing demographic variables, subjective well-being, self-esteem and state anxiety with the self-affirmation manipulation not included for those in the control condition (meeting point 1).

Appendix 3: 'Booster' questionnaire provided to participants in the 'booster' self-affirmation condition 1-week following the baseline questionnaire (meeting point 2); assessing subjective well-being, self-esteem and state anxiety with the self-affirmation manipulation included.

Appendix 4: Follow-up questionnaire provided to participants assessing subjective well-being, self-esteem and state anxiety with the self-affirmation manipulation not included. Provided to those in the standard self-affirmation condition and the control condition at meeting points 2 and 3, and those in the 'booster' self-affirmation condition at meeting point 3 only.

Appendix 5: Participant information sheets.

Appendix 1: Participant baseline questionnaire (including self-affirmation manipulation)



Personal and Social Beliefs Questionnaire

This questionnaire asks lots of different types of questions about your personal and social beliefs. It is completely anonymous, and we do not need to know your name. We are only interested in the answers of large groups of people, and not the answers of individuals. Please do not sign the questionnaire. The HRA has granted ethical approval.

By completing and handing in this questionnaire you are confirming that:

- You have read the participant information sheet
- Received enough information about the study
- You understand that you do not need to take part in the study and that you are free to withdraw:
 - -at any time
 - -without having to give a reason for withdrawing, and
 - -without detriment to you
- You agree to take part in the study

Please try to be as honest as possible and do not think too long about your answers – your first answer is usually your best.

For this research to be a success we need you to complete another questionnaire at a later date. However, we also want to ensure that your answers are anonymous and that no-one knows your name. In order to match your answers here to any future answers, we would like you to create a personal code using the questions below.

The code consists of six components:

- The *first* letter of your mum's first name
- The *day* of your birthday (e.g., 02 for 2nd of month)
- The *last two* numbers of your phone number
- The *last* letter of your last name

Please write your code in the boxes below:

1. First letter of your mum's first name:	2. Day of your 102 for 2 nd day of	3. Last two num phone number:	4. Last letter of your last name:	

The code should consist of: letter-number-number-number-number-letter (e.g., A0256N)

Please tell us:		
Are you: female / male (please circle 1)?	What is your age	(years)?
What is your height ?	What is your weight ?	
How would you describe your ethnicity (e.g.	, are you Black, White, Asian)?	
If your parent(s)/guardian(s) work, what do t	hey do?	

For most of the answers all you need to do is either write in an answer or circle the single number that best represents your answer. For example, on the following scale, you might circle '4' if you felt slightly positive about strawberry ice cream or '2' if you felt slightly negative.

Example: How	do yo	u fee	l abo	ut stra	wber	ry ice	crea	m?				
Extremely negative			1	2	3	4	5	E	Extren	nely po	ositive	
Overall, how satisfied are you with your life nowadays?												
Not satisfied at all	0	1	2	3	4	5	6	7	8	9	10	Completely satisfied
Overall, how ha	арру d	id yo	u feel	l yeste	erday	?						
Not happy at all	0	1	2	3	4	5	6	7	8	9	10	Completely happy
Overall, how anxious did you feel yesterday?												
Not anxious at all	0	1	2	3		5	6	7	8	9	10	Completely anxious
Overall, to wha	t exter	nt do	you f	eel th	e thin	ıgs you	u do	in you	ır life	e are v	worthy	while?
Not at all worthwhile	0	1	2	3	4	5	6	7	8	9	10	Completely worthwhile
How many ciga	rettes	do yo	ou sm	oke i	n a ty	pical	day?	(plea	se cii	cle o	ne)	
None	10 or 1	ess	11	1-15		16-2	20		21-2	25	,	26 or more
If you drink alcohol, how many units do you usually drink in a typical week? units (1 unit of alcohol = 1 small glass of wine; half pint of beer; pub measure of spirits). Think about the time you spent sitting on weekdays during the last 7 days . Include time spent at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television.												
During the last per day	•				ne did	i you s	spend	i sitti	ng or	ı a w€	eek da	y? hours

How many por	tions of fruits and/or vegetables do you eat each day in the average
week?	portions (a portion is a serving spoon of vegetables, a whole banana,
orange, etc)	

I have high self-esteem (please circle the number that best describes you)

Not very true of me 1 2 3 4 5 Very true of me

How much do you like your name, in total?

Not at all 1 2 3 4 5 6 7 8 9 Very much

For each of the following statements, please circle *one* option *on each line* to tell us how you feel at the moment

	Not at all	Somewhat	Moderately	Very much
1. I feel calm	1	2	3	4
2. I am tense	1	2	3	4
3. I feel upset	1	2	3	4
4. I am relaxed	1	2	3	4
5. I feel content	1	2	3	4
6. I am worried	1	2	3	4

What matters most to how you feel about yourself?

STEP 1: Which parts matter? Look at the list below. Pick out the parts about you that are most important to how you feel about yourself. Place an 'X' on the line next to the parts that are most important to you.

STEP 2: Of the parts you picked, which parts matter most? Put a '1' in the box next to the most important part. Put a '2' in the box next to the second most important part and continue (3, 4, etc.) doing this until you have ranked all the parts against which you put an 'X' in STEP 1.

	STEP 1	STEP 2
	Place an 'X' next to the important parts	Rank order the most important parts
A: Your intimate or romantic relationships (e.g., as reflected in the level of closeness you feel in close relationships)		
B: Your body shape and weight (e.g., your actual current shape and weight)		
C: Your competence at school/college (e.g., as reflected by your grades)		
D: Your personality (e.g., warmth, levelheadedness, openness, self-control)		
E: Your friendships (e.g., as reflected by the quality and number of relationships)		
F: Your face (e.g., how 'good looking' you are)		
G: Your personal development (e.g., your sense of morality, ethics or spirituality)		
H: Your competence at activities other than school/college (e.g., your competence in music, sports, hobbies)		
I: Other Please describe:		

STEP 3: Using the parts you picked in STEP 1, divide the circle at the bottom into pieces according to the rank order you gave them in STEP 2. For example, the part you rated as '1' should have the biggest piece, the part that you labelled '2' should have the second biggest piece, etc. Finally, place letters corresponding to the parts (e.g., D = your personality) inside the circle pieces, as in the example below.

Two examples:	Your circle:	
A B B B		

The beginning to a sentence appears below. Below it are 4 different ways of completing the sentence. On the lines below, <u>please write out the beginning of the sentence</u> and then <u>complete it with 1 of the 4 options</u> we have given you.

If	
	think about things that are important to me
	think about things that are important to me
	think about the things I value about myself
	think about what I stand for
If I feel threatened or anxious, then I will	remember things that I have succeeded in

End of questionnaire.

Thank you for your time.



Personal and Social Beliefs Questionnaire

This questionnaire asks lots of different types of questions about your personal and social beliefs. It is completely anonymous, and we do not need to know your name. We are only interested in the answers of large groups of people, and not the answers of individuals. Please do not sign the questionnaire. The HRA has granted ethical approval.

By completing and handing in this questionnaire you are confirming that:

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- Received enough information about the study
- You understand that you do not need to take part in the study and that you are free to withdraw:
 - -at any time
 - -without having to give a reason for withdrawing, and
 - -without detriment to you
- You agree to take part in the study

Please try to be as honest as possible and do not think too long about your answers – your first answer is usually your best.

For this research to be a success we need you to complete another questionnaire at a later date. However, we also want to ensure that your answers are anonymous and that no-one knows your name. In order to match your answers here to any future answers, we would like you to create a personal code using the questions below.

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- The *last two* numbers of your phone number
- The *last* letter of your last name

Please write your code in the boxes below:

1. First letter of your mum's first name:	2. Day of your birthday (of for 2 nd day of the mont	<u> </u>	3. Last two numbers of your phone number:						
The code sh	The code should consist of: letter-number-number-number-number-letter (e.g., A0256N)								
Please tell u	s:								
Are you: fer	male / male (please circle 1))? What is your ag	What is your age						
What is you	r height?	What is your wo	What is your weight ?						
How would	How would you describe your ethnicity (e.g., are you Black, White, Asian)?								
If your pare	nt(s)/guardian(s) work, wha	t do they do?							

For most of the answers all you need to do is either write in an answer or circle the single number that best represents your answer. For example, on the following scale, you might circle '4' if you felt slightly positive about strawberry ice cream or '2' if you felt slightly negative.

Example: How do you feel about strawberry ice cream?												
Extreme	ly nego	ative		1	2	3	4	5	E	Extren	nely po	ositive
Overall, how satisfied are you with your life nowadays?												
Not satisfied at all	0	1	2	3	4	5	6	7	8	9	10	Completely satisfied
			0			0						
Overall, how ha	appy d	id yo	u fee	l yeste	erday	?						
Not happy at all	0	1	2	3	4	5	6	7	8	9	10	Completely happy
Overall, how an	nxious	did y	ou fe	eel yes	sterda	ıy?						
Not anxious at all	0	1	2	3	4	5	6	7	8	9	10	Completely anxious
Overall, to wha	t exter	nt do	you f	eel th	e thin	igs yo	u do	in you	ur life	e are v	worth	while?
Not at all worthwhile	0	1	2	3	4	5	6	7	8	9	10	Completely worthwhile
How many ciga	rettes	do yo	ou sm	noke i	n a ty	pical	day?	(plea	se cii	rcle o	ne)	
None	10 or 1	ess	1	1-15		16-2	20		21-2	25	,	26 or more
If you drink alc	ohol, l	how r	nany	units	do yo	ou usu	ıally	drink	in a	typic	al wee	ek? units
(1 unit of alcoh	ol = 1	smal	l glas	s of w	vine; 1	half pi	int of	beer;	; pub	meas	ure of	spirits).
Think about the		-	-		_		-	_			•	
spent at work, a time spent sitting												This may include
television.	ig at a	uesk,	, VISI	ung n	Tenas	s, read	mg, c	or sitt	ing o	r iyin	g dow	n to waten
During the last 7 days, how much time did you spend sitting on a week day? hours												
per day	minu	tes pe	er da	y								

How many por	tions of fruits and/or vegetables do you eat each day in the average
week?	portions (a portion is a serving spoon of vegetables, a whole banana,
orange, etc)	

I have high self-esteem (please circle the number that best describes you)

Not very true of me 1 2 3 4 5 Very true of me

How much do you like your name, in total?

Not at all 1 2 3 4 5 6 7 8 9 Very much

For each of the following statements, please circle *one* option *on each line* to tell us how you feel at the moment

	Not at all	Somewhat	Moderately	Very much
1. I feel calm	1	2	3	4
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4. I am relaxed	1	2	3	4
5. I feel content	1	2	3	4
6. I am worried	1	2	3	4

What matters most to how you feel about yourself?

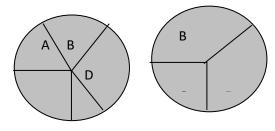
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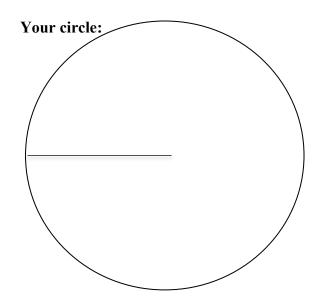
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	STEP 1	STEP 2
	Place an 'X' next to the important parts	Rank order the most important parts
A: Your intimate or romantic relationships (e.g., as reflected in the level of closeness you feel in close relationships)		
B: Your body shape and weight (e.g., your actual current shape and weight)		
C: Your competence at school/college (e.g., as reflected by your grades)		
D: Your personality (e.g., warmth, levelheadedness, openness, self-control)		
E: Your friendships (e.g., as reflected by the quality and number of relationships)		
F: Your face (e.g., how 'good looking' you are)		
G: Your personal development (e.g., your sense of morality, ethics or spirituality)		
H: Your competence at activities other than school/college (e.g., your competence in music, sports, hobbies)		
I: Other Please describe:		

STEP 3: Using the parts you picked in STEP 1, divide the circle at the bottom into pieces according to the rank order you gave them in STEP 2. For example, the part you rated as '1' should have the biggest piece, the part that you labelled '2' should have the second biggest piece, etc. Finally, place letters corresponding to the parts (e.g., D = your personality) inside the circle pieces, as in the example below.

Two examples:





End of Questionnaire.

Thank you for your time.



Personal and Social Beliefs Questionnaire

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 - -at any time
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Please try to be as honest as possible and do not think too long about your answers – your first answer is usually your best.

For this research to be a success we need to match your answers here to any previous and/or future answers, we would like you to write your personal code that you created in the last questionnaire using the questions below.

The code consists of six components:

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- The day of your birthday (e.g., 02 for 2nd of month)
- The *last two* numbers of your phone number
- The *last* letter of your last name

Please write your code in the boxes below:

1. First letter of your mum's first name:	2. Day of your of the for 2 nd day of	3. Last two nun phone number:	nbers of your	4. Last letter of your last name:

The code should consist of: letter-number-number-number-number-letter (e.g., A0256N)

For most of the answers all you need to do is either write in an answer or circle the single number that best represents your answer. For example, on the following scale, you might circle '4' if you felt slightly positive about strawberry ice cream or '2' if you felt slightly negative.

Example: How	do yo	u fee	l abo	ut stra	wber	ry ice	crea	m?				
Extreme	ly nego	ative		1	2	3	4	5	E	Extren	nely po	ositive
Overall, how sa	itisfied	l are y	you w	vith yo	our lit	fe now	/aday	/s?				
Not satisfied at all	0	1	2	3	4	5	6	7	8	9	10	Completely satisfied
Overall, how ha	appy d	id yo	u feel	l yeste	erday	?						
Not happy at all	0	1	2	3	4	5	6	7	8	9	10	Completely happy
0 11 1		41.4	2									
Overall, how an		•		•		•						
Not anxious at all	0	1	2	3	4	5	6	7	8	9	10	Completely anxious
Overall, to wha	t exter	nt do	you f	eel th	e thin	ıgs yoı	u do	in you	ur life	e are v	worthv	while?
Not at all worthwhile	0	1	2	3	4	5	6	7	8	9	10	Completely worthwhile
How many ciga	ırettes	do yo	ou sm	oke i	n a ty	pical	day?	(plea	se cii	rcle o	ne)	
None	10 or 1	ess	11	1-15		16-2	20		21-2	25	2	26 or more
If you drink alcoh (1 unit of alcoh) Think about the spent at work, a time spent sittin television.	ol = 1	small you s e, wh	l glas pent ile do	s of w	vine; l g on v	half pi weekd work	nt of ays c	beer; luring durin	; pub g the l g leis	meas	days.	Include time This may include
During the last per day					ne did	l you s	spend	l sitti	ng or	ı a w€	eek da	y? hours

How many por	tions of fruits and/or vegetables do you eat each day in the average
week?	portions (a portion is a serving spoon of vegetables, a whole banana,
orange, etc)	

I have high self-esteem (please circle the number that best describes you)

Not very true of me 1 2 3 4 5 Very true of me

How much do you like your name, in total?

Not at all 1 2 3 4 5 6 7 8 9 Very much

For each of the following statements, please circle *one* option *on each line* to tell us how you feel at the moment

	Not at all	Somewhat	Moderately	Very much
1. I feel calm	1	2	3	4
2. I am tense	1	2	3	4
3. I feel upset	1	2	3	4
4. I am relaxed	1	2	3	4
5. I feel content	1	2	3	4
6. I am worried	1	2	3	4

What matters most to how you feel about yourself?

STEP 1: Which parts matter? Look at the list below. Pick out the parts about you that are most important to how you feel about yourself. Place an 'X' on the line next to the parts that are most important to you.

STEP 2: Of the parts you picked, which parts matter most? Put a '1' in the box next to the most important part. Put a '2' in the box next to the second most important part and continue (3, 4, etc.) doing this until you have ranked all the parts against which you put an 'X' in STEP 1.

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	Place an 'X' next to the important parts	Rank order the most important parts
A: Your intimate or romantic relationships (e.g., as reflected in the level of closeness you feel in close relationships)		
B: Your body shape and weight (e.g., your actual current shape and weight)		
C: Your competence at school/college (e.g., as reflected by your grades)		
D: Your personality (e.g., warmth, level-headedness, openness, self-control)		
E: Your friendships (e.g., as reflected by the quality and number of relationships)		
F: Your face (e.g., how 'good looking' you are)		
G: Your personal development (e.g., your sense of morality, ethics or spirituality)		
H: Your competence at activities other than school/college (e.g., your competence in music, sports, hobbies)		
I: Other Please describe:		

STEP 3: Using the parts you picked in STEP 1, divide the circle at the bottom into pieces according to the rank order you gave them in STEP 2. For example, the part you rated as '1' should have the biggest piece, the part that you labelled '2' should have the second biggest piece, etc. Finally, place letters corresponding to the parts (e.g., D = your personality) inside the circle pieces, as in the example below.

Two examples:	Your circle:	
A B B B		

The beginning to a sentence appears below. Below it are 4 different ways of completing the sentence. On the lines below, <u>please write out the beginning of the sentence</u> and then <u>complete it with 1 of the 4 options</u> we have given you.

If I feel threatened or anxious, then I will	remember things that I have succeeded in
	think about what I stand for
	think about the things I value about myself
	think about things that are important to me
If	

End of questionnaire.

Thank you for your time.



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Please write your code in the boxes below:

1. First letter of your mum's first name:	2. Day 02 for 2			-				st two		nbers	of you	4. Last letter of your last name:
The code sho	ould cons	sist of	: lette	er-nun	nber-1	numb	er-nu	mber-	-num	ber-le	etter (e	e.g., A0256N)
you might c felt slightly	er that l ircle '4' negative	best r if you	epres ı felt	sents slight	your tly po	answ sitive	er. F	or ex ut str	amp	le, on	the f	or circle the following scale, cam or '2' if you
Example: H Extre	ow do yo mely neg		1 abo	ut stra 1	2	$\sqrt{3}$	e creai) 4	111 · 5	E	Extren	nely po	ositive
Overall, how	satisfied	d are y	you w	vith yo	our lif	e nov	vaday	s?				
Not satisfied at a	all 0	1	2	3	4	5	6	7	8	9	10	Completely satisfied
Overall, how	happy d	lid yoʻ	u feel	l yeste	erday	?						
Not happy at al	0	1	2	3	4	5	6	7	8	9	10	Completely happy
Overall, how	anxious	did y	ou fe	el yes	sterda	y?						
Not anxious at a	<i>ll</i> 0	1	2	3	4	5	6	7	8	9	10	Completely anxious
Overall, to w	hat exte	nt do j	you f	eel th	e thin	gs yo	u do i	in you	ır life	are v	vorthy	while?
ot at all worthwhi	le 0	1	2	3	4	5	6	7	8	9	10	Completely worthwhile
How many c	igarettes	do vo	ou sm	oke i	n a tv	pical	dav?	(plea	se cir	cle o	ne)	

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spent at work, at home, whi	le doing	cour	se w	ork a	nd du	ing the last 7 days . Include ring leisure time. This may is sitting or lying down to watch	include
During the last 7 days, how per day minutes per		ime d	did yo	ou spe	end si	tting on a week day?	hours
· -			_		•	u eat each day in the averag of vegetables, a whole ban	_
I have high self-esteem (ple	ase circl	le the	num	ber t	hat be	est describes you)	
Not very true of me	1	2	3	4	5	Very true of me	
How much do you like your	name, i	in tot	al?				

For each of the following statements, please circle *one* option *on each line* to tell us how you feel at the moment

3 4 5 6 7 8 9

Very much

	Not at all	Somewhat	Moderately	Very much
1. I feel calm	1	2	3	4
2. I am tense	1	2	3	4
3. I feel upset	1	2	3	4
4. I am relaxed	1	2	3	4
5. I feel content	1	2	3	4
6. I am worried	1	2	3	4

Not at all 1

2

What matters most to how you feel about yourself?

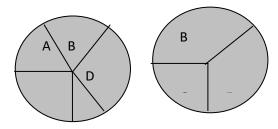
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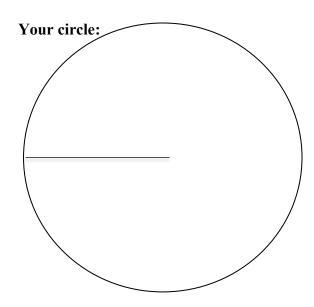
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Two examples:





End of questionnaire.

Thank you for your time.

Project no

1

School of HEALTH Sciences

Participant Information Sheet

Title of project:

Enhancing One's Sense of Well-Being.

Introduction

I am carrying out this study for the independent research component of my degree in order to understand people's personal and social beliefs, as well as exploring ways to enhance people's sense of well-being.

What will I be asked to do if I take part?

You will be asked to fill in a questionnaire, which asks you questions about yourself and your beliefs and well-being. It should not take longer than 5 minutes to fill in. We will also ask if you would be prepared to be contacted again in 1-weeks-time and again 1 week following this to answer further questionnaires.

Will my data be anonymous?

Once the questionnaires are collected in, there will be no way of knowing which one is yours. The data on the questionnaires will be analysed to determine average students' beliefs about themselves and their well-being, but there will be no way to link specific answers to you. The questionnaires will be stored on encrypted University servers until permanently deleted when no longer needed.

Do I have to take part?

You do not have to take part in this study. If you decide to take part, and then later change your mind, either before or during the study, you can ask not to take part any longer without explaining why, and if you wish, your questionnaires will be destroyed. After the questionnaires have been collected in, there will be no way of knowing which is yours, so it will not be possible to identify or delete your questionnaire.

Where can I obtain further information if I need it?

If you would like further information, please contact Charlotte Entwistle charlotte.entwistle@postgrad.manchester.ac.uk or contact the supervisor of this project, Professor Christopher Armitage at: chris.armitage@manchester.ac.uk

What if something goes wrong?

If there are any issues regarding this research that you would prefer not to discuss with members of the research team, please contact the Research Governance and Integrity Team by either writing to 'The Research Governance and Integrity Manager, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester M13 9PL', by emailing: Research.Complaints@manchester.ac.uk, or by telephoning 0161 275 7583 or 275 8093.

This project has been approved by the NHS via HRA, REC ethics.

Appendix 1: Participant questionnaires



The University of Manchester

Personal and Social Beliefs Questionnaire

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 - -at any time
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- You agree to take part in the study

Please try to be as honest as possible and do not think too long about your answers – your first answer is usually your best.

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Please write your code in the boxes below:

1. First letter of your mum's first name:	2. Day of your 02 for 2 nd day or	3. Last two nun phone number:	nbers of your	4. Last letter of your last name:

The code should consist of: letter-number-number-number-number-letter (e.g., A0256N)

Please tell us:		
Are you: female / male (please circle 1)?	What is your age	(years)?
What is your height ?	What is your weight ?	
How would you describe your ethnicity (e.g.	, are you Black, White, Asian)? _	
If your parent(s)/guardian(s) work, what do	they do?	

For most of the answers all you need to do is either write in an answer or circle the single number that best represents your answer. For example, on the following scale, you might circle '4' if you felt slightly positive about strawberry ice cream or '2' if you felt slightly negative.

Example: Hov	v do yo	ou fee	l abo	ut stra	wber	ry ice	crea	m?				
Extremely negative			1	2	3) 4	5	Ε	Extremely positive			
Overall, how satisfied are you with your life nowadays?												
Not satisfied at all		1	2	3	4	5	6	7	8	9	10	Completely satisfied
Overall, how happy did you feel yesterday?												
Not happy at all	0	1	2	3	4	5	6	7	8	9	10	Completely happy
Overall, how anxious did you feel yesterday?												
Not anxious at all	0	1	2	3	4	5	6	7	8	9	10	Completely anxious
Overall, to what extent do you feel the things you do in your life are worthwhile?												
Not at all worthwhile		1	2	3	4	5	6	7	8	9	10	Completely worthwhile
How many cigarettes do you smoke in a typical day? (please circle one)												
	10 or 1	•		1-15		16-		•	21-2		,	26 or more
If you drink alcohol, how many units do you usually drink in a typical week? units (1 unit of alcohol = 1 small glass of wine; half pint of beer; pub measure of spirits). Think about the time you spent sitting on weekdays during the last 7 days . Include time spent at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch												
television.										-		
During the last 7 days, how much time did you spend sitting on a week day? hours per day minutes per day												

How many portions of fruits and/or vegetables do you eat each day in the average				
week?	portions (a portion is a serving spoon of vegetables, a whole banana,			
orange, etc)				

I have high self-esteem (please circle the number that best describes you)

Not very true of me 1 2 3 4 5 Very true of me

How much do you like your name, in total?

Not at all 1 2 3 4 5 6 7 8 9 Very much

For each of the following statements, please circle *one* option *on each line* to tell us how you feel at the moment

	Not at all	Somewhat	Moderately	Very much
1. I feel calm	1	2	3	4
2. I am tense	1	2	3	4
3. I feel upset	1	2	3	4
4. I am relaxed	1	2	3	4
5. I feel content	1	2	3	4
6. I am worried	1	2	3	4

What matters most to how you feel about yourself?

STEP 1: Which parts matter? Look at the list below. Pick out the parts about you that are most important to how you feel about yourself. Place an 'X' on the line next to the parts that are most important to you.

STEP 2: Of the parts you picked, which parts matter most? Put a '1' in the box next to the most important part. Put a '2' in the box next to the second most important part and continue (3, 4, etc.) doing this until you have ranked all the parts against which you put an 'X' in STEP 1.

	STEP 1	STEP 2
	Place an 'X' next to the important parts	Rank order the most important parts
A: Your intimate or romantic relationships (e.g., as reflected in the level of closeness you feel in close relationships)		
B: Your body shape and weight (e.g., your actual current shape and weight)		
C: Your competence at school/college (e.g., as reflected by your grades)		
D: Your personality (e.g., warmth, levelheadedness, openness, self-control)		
E: Your friendships (e.g., as reflected by the quality and number of relationships)		
F: Your face (e.g., how 'good looking' you are)		
G: Your personal development (e.g., your sense of morality, ethics or spirituality)		
H: Your competence at activities other than school/college (e.g., your competence in music, sports, hobbies)		
I: Other Please describe:		

STEP 3: Using the parts you picked in STEP 1, divide the circle at the bottom into pieces according to the rank order you gave them in STEP 2. For example, the part you rated as '1' should have the biggest piece, the part that you labelled '2' should have the second biggest piece, etc. Finally, place letters corresponding to the parts (e.g., D = your personality) inside the circle pieces, as in the example below.

Two examples: Your circle:

The beginning to a sentence appears below. Below it are 4 different ways of completing the sentence. On the lines below, <u>please write out the beginning of the sentence</u> and then <u>complete it with 1 of the 4 options</u> we have given you.

If I feel threatened or anxious, then I will	remember things that I have succeeded in
	think about what I stand for
	think about the things I value about myself
	think about things that are important to me
If	
	·

End of Questionnaire.

Thank you for your time.

Appendix 2: Participant information sheet



Project no

1

School of HEALTH Sciences

Participant Information Sheet

Title of project:

Exploring Differences in Well-Being, Self-Esteem and Anxiety.

Introduction

I am carrying out this study for the independent research component of my degree in order to understand people's personal and social beliefs, as well as exploring differences in wellbeing, self-esteem and anxiety.

What will I be asked to do if I take part?

You will be asked to fill in a questionnaire, which asks you questions about yourself and your beliefs and well-being. It should not take longer than 5 minutes to fill in. We will also ask if you would be prepared to be contacted again in 1-weeks-time and again 1 week following this to answer further questionnaires.

Will my data be anonymous?

Once the questionnaires are collected in, there will be no way of knowing which one is yours. The data on the questionnaires will be analysed to determine average students' beliefs about themselves and their well-being, but there will be no way to link specific answers to you. The questionnaires will be stored on encrypted University servers until permanently deleted when no longer needed.

Do I have to take part?

You do not have to take part in this study. If you decide to take part, and then later change your mind, either before or during the study, you can ask not to take part any longer without explaining why, and if you wish, your questionnaires will be destroyed. After the questionnaires have been collected in, there will be no way of knowing which is yours, so it will not be possible to identify or delete your questionnaire.

Where can I obtain further information if I need it?

If you would like further information, please contact Charlotte Entwistle charlotte.entwistle@postgrad.manchester.ac.uk or contact the supervisor of this project, Professor Christopher Armitage at: chris.armitage@manchester.ac.uk

What if something goes wrong?

If there are any issues regarding this research that you would prefer not to discuss with members of the research team, please contact the Research Governance and Integrity Team by either writing to 'The Research Governance and Integrity Manager, Research Office, Christie Building, The University of Manchester, Oxford Road, Manchester M13 9PL', by emailing: Research.Complaints@manchester.ac.uk, or by telephoning 0161 275 7583 or 275 8093.

This project has been approved by the NHS via HRA, REC ethics.